

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

REMARKS/ARGUMENTS

In the Office action mailed September 3, 2004, claims 1-22 were rejected. Claims 1-18, 21, and 22 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,148,813 to Barnes et al. ("Barnes"). Claims 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Barnes in view of U.S. Patent No. 1,918,457 to Dowell ("Dowell"). Applicants thank the Examiner for attention to the application.

Claims 1, 5, 11, 16, and 21 are now amended. Claims 9 and 19-20 are cancelled.

As an initial matter, it is noted that the Office action indicates that the Examiner presumes of the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. It is respectfully noted that inventions claimed herein of inventor Baoloc Le and inventor Quinn Chi were, at the time of invention, owned or subject to an obligation of assignment to their employer Accuride International Inc. Inventors Klaus Dobberstein and Markus Geberzhan are employees of Accuride entities in Europe, and somewhat different standards and obligations possibly apply. For purposes of examination, it is believed appropriate, absent further investigation, for the Examiner to assume that inventors Klaus Dobberstein and Markus Geberzhan did not, at the time of invention, assign or have an obligation to assign the invention to Accuride International Inc.

Nevertheless, submitted herewith in an Information Disclosure Statement is United States Patent, and associated

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

material from the USPTO IFW system, with the patent based on a corresponding Patent Cooperation Treaty application in which Klaus Dobberstein is a named inventor. The publication date of the PCT application is May 3, 2001, which is more than one year prior to the filing date of the earliest priority date of the present application. Although the publication is in German, it is believed that the figures and the materials from the USPTO IFW system provide sufficient information for the Examiner's review.

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by Barnes. In Barnes a rack frame is provided which is adapted to be extensibly mounted within an oven cavity. Barnes, col. 1, lines 52-54. The rack can telescope relative to the oven cavity for multiple extensions. Barnes, col. 1, lines 56-58. One extension is provided by the relative sliding movement of the rack relative to the rack frame. Barnes, col. 1, lines 58-59. A second extension is provided by the movement of both the rack and rack frame relative to the oven cavity. Barnes, col. 1, lines 59-61.

In FIG. 1 of Barnes, a telescoping oven rack assembly is supported for movement relative to the oven cavity upon rails. Barnes, col. 3, lines 1-6. As may be seen in FIG. 1 of Barnes, the rails 22-25 are ledges on an oven sidewall. In Barnes, a rack assembly includes a rack frame 30. Barnes, col. 3, lines 30-31. The frame 30 is provided with a pair of guide rails 70 and 71. Barnes, col. 3, lines 58-59. A mounting rack 32 is mounted upon the rack frame 30, with roller wheels 127 received within channel 74 of guide rail 70 and 71. Barnes, col. 5,

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

lines 33-36. The rack 32 is free to extend and retract relative to rack frame 30. Barnes, col. 5, lines 44-45.

Rack 32 can be slidably shifted relative to rack frame 30 out of oven cavity 5, followed by both rack 32 and rack frame 30 being further shifted relative to oven cavity 5. Barnes, col. 5, lines 58-60. That is, rack 32 can slide relative to rack frame 30 through the use of the roller arrangements, and rack frame 30 can also slide upon the respective rails 22-25. Barnes, col. 5, lines 62-67.

Claim 1 specifies "two full extension slides, one each coupled to opposing margins of the oven rack". In Barnes, however, the rack 32 is slidable with respect to the rack frame 30 through the use of the channels 71 and 77 and rollers 127. The rack frame is slidable with respect to the oven cavity through use of movement of the rack frame 30 on the ledges 22-25. Accordingly, claim 1 is allowable in view of Barnes, as are dependent claims 2-4.

Claim 1 also specifies a first bracket coupled to each slide, the first bracket including a channel received in a single cross-bar of the vertically spaced cross-bars of the wire frame. Claim 1 also specifies a second bracket coupled to each slide, the second bracket including a channel and a ledge, the channel receiving a single bar and the ledge extending under the single cross-bar. An example of the first bracket and the second bracket may be seen in FIGs. 24-27 of the application.

The Office action indicates that Barnes discloses a first bracket coupled to each slide and having a channel receiving a single cross-bar 117 of the wire frame, and a second bracket

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

coupled to each slide and having a channel on the ledge. The Office action generally refers to FIGs. 4 and 5 of Barnes. It is not clear, either from the Office action or from Barnes, where Barnes includes a first bracket and a second bracket coupled to each slide. It appears from the Office action that the portions of the slide may be considered to be portions of both the first and second brackets identified in claim 1. In addition, in Barnes a support rod 117 engages a roller guide wheel 127, with the roller wheel 127 confined within a channel 74. Barnes, col. 5, lines 54-56. In such a configuration, it does not appear that Barnes includes a first bracket including a channel receiving a single cross-bar, or a second bracket receiving the single bar. Moreover, the second bracket of claim 1 includes both a channel and a ledge. A review of Barnes does not indicate such structure. Accordingly, claim 1 is further allowable in view of Barnes.

Claim 5 is rejected under 35 U.S.C. §102(b) as being anticipated by Barnes. Claim 5 specifies an oven rack, a corresponding wire frame approximate each opposing side wall (of an oven enclosure), and full extension slides coupling opposing margins of the oven rack to the wire frames, with the first slide member of each full extension slide coupled to the oven rack and a second slide member of each full extension slide coupled to one of the wire frames. It does not appear that such structure is in Barnes, and accordingly, claim 5 and dependent claims 6-8 and 10 are allowable.

Claim 11 is rejected under 35 U.S.C. §102(b) as being anticipated by Barnes. Claim 11 has similarities to claim 1.

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

claim 11 also specifies an oven enclosure including side walls, with opposing wire frames positioned approximate the side walls of the oven. In claim 11 a first bracket is coupled to each slide, the first bracket including a channel receiving a single cross-bar of the vertically spaced cross-bars of the wire frame and a second bracket coupled to each slide, the second bracket including a channel and a ledge, the channel receiving the single cross-bar and the ledge extending under the single cross-bar. In view of the discussion of claim 1 above, it does not appear that Barnes discloses or suggests such, and independent claim 11 and dependent claim 12 are therefore allowable.

Claim 13 is rejected under 35 U.S.C. §102(b) in view of Barnes. Claim 13 specifies a first bracket and a second bracket. The first bracket includes a channel configured to receive a cross-bar to provide support for the drawer slide assembly in a first direction. The second bracket includes a channel and a ledge. The channel is configured to receive the cross-bar to provide support for the drawer slide assembly in the first direction. The ledge is configured to contact the cross-bar when the cross-bar is received by the channel to prevent motion of the drawer slide assembly about the ledge in a second direction opposite the first direction. The discussion of Barnes with respect to claim 1 indicates that Barnes does not include such structure. Accordingly, claim 13, and dependent claims 14 and 15 are therefore allowable.

Claim 16 is rejected under 35 U.S.C. §102(b) as being anticipated by Barnes. Claim 16 has been amended to somewhat incorporate the limitations of claims 19 and 20. Claims 19 and

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

20 were rejected under 35 U.S.C. §103(a) in view of Barnes and Dowell. Claim 16 specifies that the rack frame include an extending tab, the extending tab including an extending portion forming a leaf spring configured to press against side walls of the oven cavity. Claim 16 also specifies a plastic sleeve fitted onto the extending portion.

In Dowell it appears that a clip 18 is used to help secure a rack within an enclosure. A gasket 16 is arranged between a convex washer 15 and a liner. The washer 15 is mounted on a support which projects through an aperture in the liner. Thus, it may be viewed that the gasket 16 of Dowell is positioned in place with respect to the liner.

In claim 16, however, a plastic sleeve is fitted onto the extending portion of an extending tab from the rack frame. The gasket 16 of Dowell is not fitted onto an extending portion of an extending tab with the extending tab included with the rack frame. Instead, the gasket 16 is fitted onto a support 12 projecting through an aperture in the liner. Accordingly, claim 16, and dependent claim 17 and 18 are allowable.

Claim 21 was rejected under 35 U.S.C. §102(b) in view of Barnes. In claim 21 a rack frame includes a roller configured for rolling engagement with a side wall of an oven enclosure. In Barnes, a roller 127 is configured for rolling engagement with a channel 77. A rack frame 30 sets on ledges of an oven enclosure. It does not appear that anywhere in Barnes is included a roller configured for rolling engagement with a side wall of an oven enclosure. Accordingly, claim 21 is allowable.

Appln No. 10/617,493

Amdt date December 3, 2004

Reply to Office action of September 3, 2004

As the claims are in condition for allowance, allowance is respectfully requested.

In addition, Information Disclosure Statements (IDS) were filed on February 5, 2004, March 26, 2004 and January 30, 2004. Copies of the IDS's, the accompanying Substitute Form 1449's, and return receipt postcards are attached hereto.

It is respectfully requested that the listed references be considered in the examination of this application and identified on the list of references cited on the patent issuing for this application. Applicant also requests that an initialed copies of FORM PTO/SB/08A/B be entered in the application file and returned to applicant with the next communication from the Office in accordance with MPEP § 609.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By



Daniel M. Cavanagh
Reg. No. 41,661
626/795-9900

DMC/rmw

RMW IRV1082016.1--*-12/3/04 6:49 PM



COPY

PLEASE SIGN AND RETURN TO ACKNOWLEDGE RECEIPT

Title **OVEN ASSEMBLY WITH SLIDES**

Ser/Pat No: **10/617,493**
Filed/~~DOC~~ : **July 10, 2003**

____ Assigned Enclosed (List Assignee)

DOCUMENT TITLE:
(List enclosures)

Information Disclosure Statement (1 pg):
Form PTO/SB/08A/B (1 pg): Copies of
Three (3) References.

☒ PAT ☐ COP ☐ MARK ☐ DBA

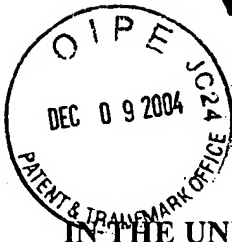
Client ID **S584**
Case No **50442**
Atty/Sec **DMC:rmw**
Date Mailed **Jan. 30, 2004**
Date Due **N/A**
Cert of Mailing **YES**
Express Mail No. **NO**

Checked by: 

ACKNOWLEDGE HERE



REV 11/93 FORM P2



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 30, 2004.

Renne M.F. Wyzykowski
Renne M.F. Wyzykowski

Applicant : Baoloc Le, et al.
Application No. : 10/617,493
Filed : July 10, 2003
Title : OVEN ASSEMBLY WITH SLIDES
Grp./Div. : 3743
Examiner : To Be Assigned
Customer No. : 23363
Docket No. : 50442/DMC/S584

Confirmation No. 2843

COPY

INFORMATION DISCLOSURE STATEMENT
37 CFR § 1.97(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
January 30, 2004

Commissioner:

In compliance with the duty of disclosure under 37 CFR §§ 1.56, 1.97 and 1.98, and in accordance with the provisions in the Manual of Patent Examining Procedure §§ 609 and 707.05(b), enclosed is FORM PTO/SB/08A/B listing the references that are known to applicant. Copies of each of the listed references other than U.S. patent and patent publications are enclosed. This filing is understood to be made during the period described in 37 CFR § 1.97(b)(3) as Applicants do not believe a first Office action on the merits has yet been mailed.

It is respectfully requested that the listed references be considered in the examination of this application and identified on the list of references cited on the patent issuing for this application. Applicant also requests that an initialed copy of FORM PTO/SB/08A/B be entered in the application file and returned to applicant with the next communication from the Office in accordance with MPEP § 609.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By *Daniel M. Cavanagh*

Daniel M. Cavanagh, Reg. No. 41,661

Telephone: 626/795-9900

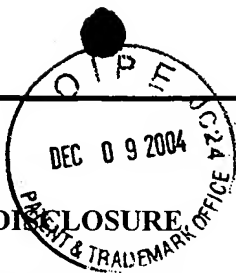
DMC/rmw

Enclosures: PTO/SB/08A/B, w/references
RMW IRV1073961.1 *-01/30/04 10:06 AM

FORM PTO/SB/08A/B (10-01)
Substitute for PTO-1449A/B

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)



Attorney Docket Number	50442/DMC/S584
Application Number	10/617,493
Filing Date	July 10, 2003
Applicant(s)	Baoloc Le, et al.
Group Art Unit	3743
Examiner Name	To Be Assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	DOCUMENT NUMBER Number - Kind Code ² (If Known)	PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE
		US 6,643,900 B2	11-11-2003	Jährling
		US 2001/0044992 A1	11-29-2001	Jahrling

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (If Known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T ⁶ (✓)
		EP 1 158 185 A2	11-28-2001	Paul Hettich GMBH & Co.	
		EP 1 158 185 A3	07-03-2002	Paul Hettich GMBH & Co.	

OTHER DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		Hettich International, "QUADRO The Ball Bearing Principle", Modern Woodworking, February 2002 (p. 8).

RMW IRV1073962.1-*01/29/04 2:43 PM

EXAMINER SIGNATURE	DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.pto.gov or MPEP 901.4. ³ Enter Office that issued the document, by the two-letter code (WIPO standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.	

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



COPY

PLEASE SIGN AND RETURN TO ACKNOWLEDGE RECEIPT

Title **Oven Assembly With Slides**

Ser/~~XXXXX~~ No: **10/617,493**
Filed/~~XXXX~~ : **July 10, 2003**

____ Assigned Enclosed (List Assignee)

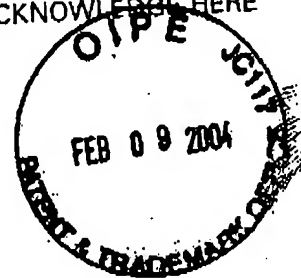
Client ID **S584**
Case No **50442**
Atty/Sec **DMC:rw**
Date Mailed **Feb. 5, 2004**
Date Due **N/A**
Cert of Mailing **YES**
Express Mail No. **NO**

Checked by: 

DOCUMENT TITLE:
(List enclosures)

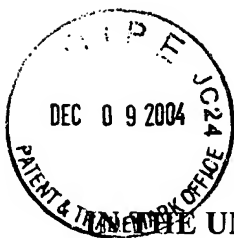
**Information Disclosure Statement (1 pg);
Form PTO/SB/08A/B (1 pg); Copy of US
Appln. No. 10/651,488 spec. claims and
drawings (44 pgs total).**

ACKNOWLEDGE HERE



XX PAT ____ COP ____ MARK ____ DBA

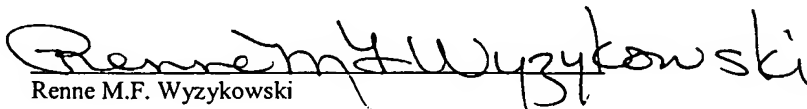
REV 11/93 FORM P



PATENT

UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 5, 2004.


Renne M.F. Wyzykowski

Applicant : Baoloc Le, et al.
Application No. : 10/617,493
Filed : July 10, 2003
Title : OVEN ASSEMBLY WITH SLIDES
Grp./Div. : 3743
Examiner : To Be Assigned
Customer No. : 23363
Docket No. : 50442/DMC/S584

Confirmation No. 2843

COPY

INFORMATION DISCLOSURE STATEMENT
37 CFR § 1.97(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
February 5, 2004


Commissioner:

For informational purposes, a copy of U.S. Patent Application No. 10/651,488, which is a continuation-in-part of this application, is enclosed and listed on the attached Form PTO/SB/08A/B.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By


Daniel M. Cavanagh, Reg. No. 41,661
Telephone: 626/795-9900

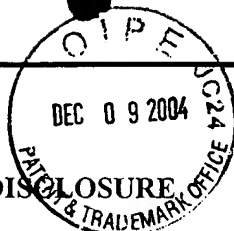
DMC/rmw

Enclosures: PTO/SB/08A/B, w/references
RMW IRV1074177.1-*02/5/04 2:12 PM

FORM PTO/SB/08A/B (10-01)
Substitute for PTO-1449A/B

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)



Attorney Docket Number	50442/DMC/S584
Application Number	10/617,493
Filing Date	July 10, 2003
Applicant(s)	Biolec Le, et al.
Group Art Unit	3743
Examiner Name	To Be Assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	DOCUMENT NUMBER Number - Kind Code ² (If Known)	PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (If Known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T ⁶ (✓)

OTHER DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		U.S. Patent Application No. 10/651,488, filed August 29, 2003, entitled Oven Rack Assembly With Slide, Inventors: Baoloc Le, Quinn Chi; Klaus Dobberstein, Markus Geberzahn, including Specification and Claims (23 pgs); Informal Drawings (21 pgs).

RMW IRV1074180.1-*02/5/04 11:52 AM

EXAMINER SIGNATURE	DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.pto.gov or MPEP 901.4. ³ Enter Office that issued the document, by the two-letter code (WIPO standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.	

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



COPY

PLEASE SIGN AND RETURN TO ACKNOWLEDGE RECEIPT

Title **Oven Assembly With Slides**

Ser/ ~~PROCES~~ No: **10/617,493**
Filed/ ~~EXCH~~ : **July 10, 2003**

____ Assigned Enclosed (List Assignee)

Client ID **8584**
Case No **IN 50442**
Atty/Sec **DMC:rmw**
Date Mailed **March 26, 2004**
Date Due **N/A**
Cert of Mailing **YES**
Express Mail No. **NO**

Checked by: 

DOCUMENT TITLE:
(List enclosures)

Information Disclosure Statement (2 pgs.)
Form PTO/SB/08A/B (1 pg); Copy of one
(1) reference.

ACKNOWLEDGE HERE



☒ PAT ____ COP ____ MARK ____ DBA

REV. 11/93 FORM 172

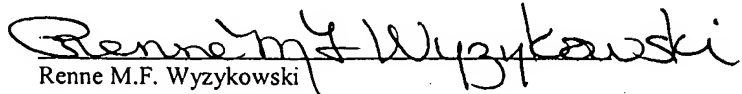


COPY

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 26, 2004.


Renne M.F. Wyzykowski

Applicant : Baoloc Le, et al.
Application No. : 10/617,493
Filed : July 10, 2003
Title : OVEN ASSEMBLY WITH SLIDES
Grp./Div. : 3743
Examiner : To Be Assigned
Customer No. : 23363
Docket No. : 50442/DMC/S584

Confirmation No. 2843

INFORMATION DISCLOSURE STATEMENT
37 CFR § 1.97(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Post Office Box 7068
Pasadena, CA 91109-7068
March 26, 2004

Commissioner:

In compliance with the duty of disclosure under 37 CFR §§ 1.56, 1.97 and 1.98, and in accordance with the provisions in the Manual of Patent Examining Procedure §§ 609 and 707.05(b), enclosed is FORM PTO/SB/08A/B listing a reference that is known to applicant. A copy of the listed reference is enclosed. This filing is understood to be made during the period described in 37 CFR § 1.97(b)(3) as Applicants do not believe a first Office action on the merits has yet been mailed.

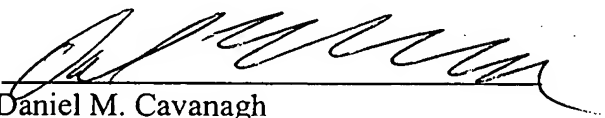
It is respectfully requested that the listed reference be considered in the examination of this application and identified on the list of references cited on the patent issuing for this application. Applicant also requests that an initialed copy of FORM PTO/SB/08A/B be entered

Application No. 10/617,493

in the application file and returned to applicant with the next communication from the Office in accordance with MPEP § 609.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By


Daniel M. Cavanagh
Reg. No. 41,661
626/795-9900

DMC/rmw

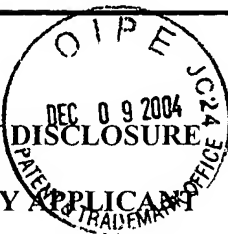
Enclosures: PTO/SB/08A/B, w/reference
RMW IRV1075753.1-* -03/26/04 12:19 PM

FORM PTO/SB/08A/B (10-01)
Substitute for PTO-1449A/B

INFORMATION

STATEMENT BY

(use as many sheets as necessary)



Attorney Docket Number

50442/DMC/S584

Application Number

10/617,493

Filing Date

July 10, 2003

Applicant(s)

Baoloc Le, et al.

Group Art Unit

3743

Examiner Name

To Be Assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	DOCUMENT NUMBER Number - Kind Code ² (If Known)	PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (If Known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T ⁶ (✓)

OTHER DOCUMENTS

EXAMINER INITIALS	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		International Search Report dated 18 February 2004 for International Application No. PCT/US03/27026 filed 29 August 2003, mailed 12 March 2004 (4 pages).

RMW IRV1075751.1-*03/26/04 12:12 PM

EXAMINER SIGNATURE	DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.pto.gov or MPEP 901.4. ³ Enter Office that issued the document, by the two-letter code (WIPO standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.	

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Express Mail Label No. EV097458383US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT COOPERATION TREATY**

Applicant(s): Klaus DOBBERSTEIN Attorney Ref.: 1032.WSLP:101_US_

Serial No.: unknown Group Art Unit: unknown

Filing Date: unknown Examiner: unknown

Title: SUPPORT SYSTEM FOR COOKING ITEMS IN A BAKING OVEN

International Application No.: PCT/DE00/03661

International Filing Date: October 13, 2000

SUBSTITUTE SPECIFICATION

Express Mail Label No. EV097458383US

Attorney Docket No. WSLP101 US

SUPPORT SYSTEM FOR COOKING ITEMS IN A BAKING OVEN
[PRODUCT SUPPORT SYSTEM FOR AN OVEN]

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims benefit to International Application No. PCT/DE00/03661, filed on October 13, 2000; said International Application claims priority from German Patent Application No. 199 51 267.1, filed October 25, 1999.

FIELD OF THE INVENTION

[0002] The invention relates to a product support system for an oven with at least one product support, at least one pair of telescopic guides each of which has at least one internal track and one external track, and wall-mounted holders arranged on the side walls of the baking muffle, which are designed for a releasable attachment of the telescopic guides at different levels of the oven muffle, the product support being [house] housed over the telescopic guides in the oven muffle able to be pulled out from the latter.

[0003] By the [term] expression "product support" is [are] meant [in] the following: all the inserts which are normally used in ovens, such as baking sheets, grills, baking dishes etc. The inside of an oven or cooker is formed by the so-called baking muffle or muffle. If the [term] expression "at the back" is used in the following in relation to the oven, the product support or the telescopic guides, this refers to an area near to the back wall of the muffle, or, in the case of a part which is introduced into the oven, the area which is brought near to the back wall of muffle. "At the front" means the area near the mouth of the muffle or oven. In the following the [term] expression "side wall" refers to the wall laterally limiting the inside of the oven. This can be the side wall of the oven muffle itself. However, there can also be a wall additionally arranged in the

oven in front of the actual muffle side wall, a block, a folded or bent steel sheet, a profile or other lateral attachment device, as is normal in some ovens.

BACKGROUND OF THE INVENTION

[0004] In known ovens the product support is guided in grooves which are developed in the side wall. Several grooves are provided on both sides at different heights or levels so that the product support can be introduced into the oven muffle at different heights or so that several product supports can be accommodated in the oven at the same time. The sliding behavior [behaviour] of the product supports in such grooves depends on the surface properties of the surfaces sliding on each other and the loading of the product support and is comparatively poor.

In other known ovens, grids with horizontal bars, on which the product supports are guided, are arranged in front of the side walls. Due to the smaller bearing surface of the mostly round horizontal grid bars, the sliding behavior [behaviour] is somewhat improved vis-à-vis grooves. Both previously mentioned guide devices for product supports have the disadvantage that the product support can only be pulled a certain distance out of the oven before it tilts downwards or has to be held at the front. Although the upper limits of the grooves, or other horizontal grid bars fitted a small distance above the product carrier, do offer some help in preventing the product carrier from tilting downwards, and thus make it possible to pull it out for a somewhat greater distance, such arrangements do not permit the product support to be fully pulled out in front of the muffle without the product having to be held by someone.

[0005] In the case of improved ovens telescopic guides, onto the movable track of which a product support can be placed, are attached to the side wall or to a grid. If the telescopic guides have one or more center [centre] tracks between the stationary track and the movable track on

which the product support rests, then the telescopic guides can be pulled out far enough for the product support to be able to be pulled completely out of the oven in front of the muffle. It is furthermore known that the product support lying on the movable telescopic track is furthermore housed slidable on this track so that, after the telescopic guide has been completely pulled out, it can be pulled further along the track until it is in front of the baking oven muffle. This allows the use of telescopic guides with only two tracks, which is advantageous in terms of cost. Because of their smooth-running properties, the telescopic guides facilitate the pulling-out and pushing-in of the product support generally and guarantee stability and safeguard against downward tilting of the product support in the pulled-out position. In order to be able to accommodate several product supports in one oven or in order to be able to position one product support at different levels it is necessary in the previously mentioned ovens that a pair of telescopic guides be provided at each level, which in turn increases the cost for such ovens. Furthermore, both the used and the unused telescopic guides take up a lot of room in the oven muffle, which means a poorer circulation of air in fan-assisted stoves. As telescopic guides are made of metal as a rule, they possess a high thermal capacity. As the telescopic guides which are not used are also heated in such ovens, a certain amount of thermal energy flows unnecessarily into these unused telescopic guides and thus increases the energy consumption of such ovens. A further disadvantage is that the telescopic guides partly cover the lighting often arranged on the side in the oven muffle and thus adversely affects the view in the oven. Ovens are also known in which the telescopic guides on the side wall are attached so as to be releasable, e.g. by means of screws. Thus the telescopic guides can be assembled as needed at certain levels and disassembled and the presence of unused telescopic guides in the oven is avoided. If telescopic guides are not

arranged at every level in the oven then it is not possible in such ovens to adjust the height of the product support during baking or roasting. To do this, the telescopic guides would firstly have to be dismantled and then reassembled at another level. This is time consuming and impractical and represents a handling problem as the product support has to firstly be removed from the oven
5 and placed somewhere else and the telescopic guides are very hot. It would be a waste of energy, and also very inexpedient for the baking or roasting process, if the telescopic guides first had to be left to cool down for a time before disassembly.

SUMMARY OF THE INVENTION

[0006] The object of the present invention is to prepare a product support system of the type mentioned at the start in which only the minimum necessary number of telescopic guides is
10 present in the oven and a simple and comfortable change of the levels of the product supports is nevertheless possible without time consuming disassembly work.

[0007] This object is achieved by a product support system of the type mentioned at the start in which the product support is connected in fixed or releasable manner, as a product
15 support unit which can be removed from the oven, to the pair of telescopic guides.

[0008] Each product support which is pushed into the oven is connected to the necessary pair of telescopic guides to form a product support unit. Product support and telescopic guides are thus introduced into the oven, and also removed again, as one unit. The telescopic guides are each attached laterally to the product support. The attachment can be developed in a
20 non-releasable manner, e.g. by welding, riveting or otherwise. A releasable connection can be carried out by screwing, plug insertion, clamping, locking or in other ways. A releasable connection has the advantage that the unit of product support and telescopic guides can be broken

down into these individual components in order to more easily clean them separately. Furthermore a small number of telescopic guides can thereby be used for very different product supports. Normally no more than two or three product supports are pushed into an oven at the same time. However, in most cases many different types of product supports are present for
5 different uses, such as baking sheets, grills, drip trays etc., which can then be equipped when needed with the telescopic guides.

[0009] By "internal track" is meant herein the movable track of a telescopic guide which, in relation to the muffle side wall, faces the inside of the oven. The connection between product support and telescopic guide takes place expediently via the internal track. By "external track" is
10 meant the stationary track of the telescopic guides which in the oven muffle is attached in a releasable manner to the side walls or the wall-mounted holders provided for this. Wall-mounted holders can be apertures, slits or recesses provided in the side walls, in which the telescopic guides are suspended, locked or otherwise secured. However, separate attachment devices arranged on the side walls can also be provided as wall-mounted holders. Furthermore, grids
15 arranged in front of the side walls or folded sheets with corresponding attachment devices can also serve as wall-mounted holders.

[0010] In one version of the invention the wall-mounted holders have, near to the muffle rear wall, projections or recesses which are designed to receive the external tracks of the telescopic guides or holding latches provided at the rear ends of the external tracks by pushing in
20 [in] a horizontal direction. It is furthermore advantageous if, near to the mouth of the muffle, the wall-mounted holders have side-wall openings and the external tracks of the telescopic guides bayonets or similar attachment devices, such as latches, hooks or projections, called "bayonet" in

the following, which are designed such that the bayonets engage with the side-wall openings and can be locked to arrest the external tracks in horizontal direction. In this version the product support unit is attached laterally above the external tracks of the telescopic guides on both sides in each case in the rear and front areas of the oven muffle. The attachment in the rear area takes place by insertion of the external tracks or a latch provided on it into a holder or aperture provided for it in horizontal direction. This rear housing of the product support is developed such that the product support is secured in this rear area against a vertical movement at the corresponding level and is supported downwards. The releasable attachment of the external track in the front area likewise supports the product support downwards and arrests the external track in the horizontal direction at the same time. This prevents the product support together with the entire telescopic guide from being pulled out of the oven if, when baking or cooking, only the product support is to be pulled forward in order to inspect or work on the product. To insert the complete product support unit, the telescopic guide is thus firstly pushed into the corresponding housing in the back area, and then arrested by locking of the bayonet in the front area.

[0011] In a further preferred version of the product support system according to the invention, the external tracks of the telescopic guides have a bar housed articulated and the internal tracks of the telescopic guides have a trap, the bar being able to be brought into engagement with the trap to prevent a movement of the internal track vis-à-vis the external track if the internal track is essentially completely pushed in. The effect of locking the internal track with the external track when the telescopic guide is completely pushed in, is that, during the removal of the product support unit from the oven, the telescopic guides are prevented from sliding apart due to friction of the external track against the wall-mounted holder, or when the

product support unit is inclined. During the removal of the product support unit, the telescopic guide remains pushed together, which makes handling much easier.

[0012] In connection with this invention, "locking" describes a situation in which the internal track of the telescopic guide cannot be displaced vis-à-vis the external track.

5 "Unlocking" means that the internal track can be displaced vis-à-vis the external track, i.e. the telescopic guide can be pulled out. "Arresting" of the external track on the side wall or on the wall-mounted holder describes a situation in which the external track cannot be displaced horizontally vis-à-vis the side wall.

[0013] For a simple withdrawal and insertion of the product support during baking or
10 roasting, it is advantageous according to the invention if the tracks of the telescopic guides are housed above preferably caged ball-bearings, rollers or rolls and can be displaced against each other. Although telescopic guides with tracks which slide directly against each other are also suitable if costs for the caged telescopic guides are to be saved, such telescopic guides have a somewhat poorer sliding behavior [behaviour]. Of course, the telescopic guides according to the
15 invention are provided with withdrawal limiters, as is normal for most telescopic guides, in order to prevent a complete pulling apart and separating of the tracks. It is also advantageous if the telescopic guides have one or more center [centre] tracks in addition to the internal track and the external track. The length of the telescopic guides is limited by the depth of the inside of the oven and therefore corresponds approximately to the depth of the product supports used. Longer
20 telescopic guides would prevent a closing of the oven door. The pulling out of two telescopic guides against each other up to the withdrawal limit therefore corresponds at most to the length of the track in question, less the space occupied by the ball-bearings, rollers or rolls provided

between the tracks. The better the sliding behavior [behaviour] of the telescopic guides, the more spheres, rollers or rolls are provided. If the product support is not additionally still displaceable forwards sliding on the telescopic guides, as is known from the state of the art, a withdrawal of the product support up to in front of the oven muffle can be carried out only with telescopic
5 guides which have three or more tracks.

[0014] In a particularly preferred version of the product support system according to the invention insertion aids with upper guide surfaces running inclined upwards towards the muffle rear wall and/or lower guide surfaces running inclined downwards towards the muffle rear wall are provided on the wall-mounted holders or on the muffle side-wall near to the muffle rear wall.

10 Such insertion aids or guide inclines facilitate the introduction of the product support unit into the rear attachment housing. The rear housing can thus be adapted more accurately and with less play to the external tracks to be received or the latch to be received on the external tracks, whereby the product support is in turn held more firmly in the oven muffle. The insertion aids facilitate the insertion of the product support unit without the operator having to precisely sight
15 the rear housing devices. The insertion aids can guide on one side, e.g. only from underneath, to the correct height of the product support unit. It is however advantageous if guiding is from above and below.

[0015] The attachment of the product support system at the front advantageously takes place according to the invention at recesses in the side wall of the oven muffle or the front wall-
20 mounted holders. The side-wall recesses expediently allow access from the front. This is realized [realised], in the case of a side wall developed as a profile or folded sheet or wall-mounted holder, by having the side-wall opening extend from the section of the profile or of the

sheet extending parallel to the muffle side wall over an edge or fold into a section of the profile or sheet extending essentially perpendicular thereto in the direction of the back wall of the muffle pointing towards the mouth of the muffle.

[0016] The side-wall openings also have a bayonet trap in the shape of a slit-shaped

5 recess, open to the top, into which the bayonet can be locked by lowering. It is also expedient if the side-wall opening has, before the bayonet trap, a feed slope via which the bayonet can be introduced into the bayonet trap in a similar way, as for the insertion aids described above. The arrest of the external track takes place by locking of the bayonet into the bayonet trap, the bayonet being guided over the bayonet trap and fitted or locked into this by lowering. The
10 external track of the product support unit is thus arrested against a horizontal displacement. The release of the arrest takes place by lifting the product support unit.

[0017] In order to prevent a release of the arrest of the product support unit through inadvertent lifting, or the inadvertent lifting itself, the bar of the product support system according to the invention advantageously has an upper stop surface, and the side-wall recess an
15 upper backstop, which are designed such that they limit a lifting of the product support unit if the bar is in an unlocking position.

[0018] The bar expediently has a detent, which is arranged such that, upon turning of the bar into a locking position, it engages with the trap of the internal track and the upper stop surface of the bar is developed such that, upon turning of the bar into the locking position, it is so
20 far removed from the upper backstop of the side-wall opening that the bayonet can be completely guided out of the bayonet trap. It is thereby ensured that, when unlocking the external tracks to remove the product support unit, the telescopic guide is simultaneously secured against a sliding

apart of the tracks. Thus the external tracks are unlocked, and the telescopic guide locked, in one step. The bar can be brought into the locking position by lifting the product support when it is inserted completely into the oven. The upper stop surface of the bar is pressed against the upper backstop of the side-wall opening and the bar turned about its fulcrum on the external track into the locking position.

[0019] However, this is possible only if the product support or the internal track is pushed completely into the telescopic guide and the detent can penetrate the trap on the internal track and engage with this. If the trap on the internal track is not located in the corresponding position, if the internal track is not completely pushed in, the bar cannot be moved from the unlocking position into the locking position, as then the detent comes to rest on the internal track and a further turning of the bar into the locking position is prevented. An unlocking of the external track from the wall-mounted holder is then not possible either, as the upper stop surface of the bar prevents the guiding out of the bayonet from the bayonet trap.

[0020] The bar can advantageously also have a lower stop surface and the side-wall opening a lower backstop which are designed such that the bar, which is located in the locking position when using the product support unit, moves into the unlocking position upon lowering of the product support unit to lock the bayonet. The bar is thus pushed or rotated upwards by the pressure of the lower backstop of the side-wall opening onto the lower stop surface of the bar. The product support unit is thus likewise arrested and unlocked in one step.

[0021] In one version of the invention the bar also has a manual unlocking key with which the bar can be turned from the unlocking into the locking positions by pressing the key. The lower stop surface of the bar presses onto the lower backstop of the side-wall opening and in

the process pushes or levers the product support unit upwards. Here there is again simultaneously a locking of the telescopic guide and an unlocking of the external track by lifting and guiding of the bayonet out of the bayonet trap.

BRIEF DESCRIPTION OF THE DRAWINGS

5 [0022] Further advantages, features and versions of the present invention will become clear with the help of reference to the following Figures and the associated description.

Figure 1 shows a broken-off front side view of an oven space with inserted product support unit,

10 Figure 2 shows a top view of the left-hand side wall of the oven from Figure 1,

Figure 3 shows a broken-off representation of the back wall-mounted holder, as seen in the direction of the arrow A in Figure 2,

Figure 4 shows a broken-off partial section from Figure 1 in enlarged representation,

Figure 5 shows the telescopic guide and the wall-mounted holder of the product support unit according to the invention when extended in broken-off representation from the side,

Figure 6 shows the telescopic guide and the wall-mounted holder of the product support according to the invention when extended in broken-off representation from the side,

20 Figures 7a show the bar of the product support unit according to the invention from the side and 7b and from the front respectively,

Figure 8a shows a telescopic guide of the product support unit according to the invention in broken-off representation from the side,

Figure 8b shows a broken-off sectional representation looking in the direction of the arrow A in Figure 8a.

5 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0023] Figure 1 shows an oven 1 with side walls 3 and a muffle rear wall 1b, in which a product support system according to the invention is arranged. As is represented in detail in Figure 4, a product support 2 is firmly connected via a connection piece in each case on both sides to the internal track 4 of a telescopic guide 23. The telescopic guides each have an external track 5, and internal track 4 and external track 5 are housed, displaceable against each other, over ball-bearings 6. A bar 7 is attached rotatable to the external track 5 via a joint bolt 12. The front and rear wall-mounted holders 24 and 25 consist, in the version represented in the Figures, of laterally folded-over sheets or profiles which, for releasable attachment of the product support unit, have side-wall openings 15 in the front area of the baking oven muffle and recesses 21 in the rear area of the muffle (Figure 3). As can be seen in Figure 2, the represented wall-mounted holders 24 and 25 are designed for an arrangement of product support units on four levels. The external track of the telescopic guide has a holding latch 20 at its end which is introduced into the recess 21 represented in Figure 3 when the product support unit according to the invention is placed in the oven. In order to facilitate the process of introduction, insertion aids 14 with upper and lower guide inclines are provided on the rear wall-mounted holder 25 for each level in the oven.

[0024]

In the front section the external track 5 has a bayonet 19 which is designed as a latch which projects from the external track and extends essentially parallel to the latter towards the rear, as is shown in Figures 8a and 8b. Figure 2 shows the two positions of the bar 7 when inserting or removing the product support unit according to the invention. In the case of the telescopic guide represented above in Figure 2 and in Figure 5 the bar 7 is located in an unlocking position, which it assumes when the product support unit is inserted in the oven and the external track 5 is arrested against a horizontal displacement by locking the bayonet 19 into the bayonet trap 18. The internal track 4 has a trap 13 for the bar 7, in which the detent 18 of the bar can engage, in order to lock the external track 5 and the internal track 4 against a displacement, as is represented in Figure 2 at the bottom and in Figure 6. In order to bring the bar into this locking position, the trap 13 on the internal track 4 has to be moved under the detent 8, i.e. the internal track 4 has to be pushed into the telescopic guide 23. The locking takes place by lifting the product support unit at the front, the bayonet 19 being simultaneously lifted out of the bayonet trap 18 and the external track 5 thus released from its arrest against a horizontal removal from the oven. In the version represented in the Figures the bar 7 has a manual unlocking key 11 with which the locking can also be carried out. The bar 7 has a lower stop surface 10 and the side openings a lower backstop 17 which are pushed against each other when the unlocking key 11 is pressed down or the bar is turned into the locking position. The entire product support unit is thereby pushed up by the bar 7 over the hinge bolt 12 and in the process the bayonet 19 is also lifted out of the bayonet trap 18. Thus, in order to remove the product support unit from the oven, either the front side of the product support unit can be lifted or the unlocking key 11 of the bar 7 can be pressed down.

10025]

As is represented in Figure 5, the bar 7 has an upper stop surface 9 and the side-wall opening 15 an upper backstop 16 which in the unlocking position limit a lifting of the product support unit and thus block a lifting of the bayonet 19 out of the bayonet trap 18. When the internal track is pulled out, as is represented in Figure 5, the detent 8 of the bar 7 can be
5 turned down no further than the lower edge of the internal track 4, whereby the bar is kept in the unlocking position and the upper stop surface 9 cannot remove itself from the backstop, 16 of the side-wall opening 15. When the product support is pulled out an inadvertent unlocking of the bayonet 19 from the bayonet trap 18 is thus prevented.

Reference List

	1	Oven space
	1a	Muffle side wall
5	1b	Muffle rear wall
	2	Product support unit
	3	Side wall
	4	Internal track
	5	External track
10	6	Ball-bearings
	7	Bar
	8	Detent
	9	Upper stop surface of the bar
	10	Lower stop surface of the bar
15	11	Manual unlocking key
	12	hinge bolt
	13	trap on the internal track
	14	Insertion aid
	15	Side-wall opening
20	16	Upper backstop of the side-wall opening
	17	Lower backstop of the side-wall opening
	18	Bayonet trap
	19	Bayonet
	20	Holding latch
25	21	Recess for holding latch
	23	Telescopic guide
	24	Front wall-mounted holder
	25	Rear wall-mounted holder

What I Claim Is: [PRODUCT CLAIMS]

THIS PAGE BLANK (USPTO)

ABSTRACT

[Product support system for an oven]

Support system for cooking items in a baking oven

A product support system for an oven has at least one product support, at least one pair of telescopic guides (23), each of which has at least one internal track and one external track, and wall-mounted holders (24, 25), arranged on the side walls (1 a) of the oven muffle, which are designed for a releasable attachment of the telescopic guides (23) at different levels of the oven muffle, the product support being housed above the telescopic guides (23) in the oven muffle able to be pulled out from the latter. In order to create a product support system in which only the minimum necessary number of telescopic guides is present in the oven and a simple and comfortable change of the levels of the product supports is nevertheless possible without time-consuming disassembly work, the product support is connected in fixed or releasable manner, as a product support unit which can be removed from the oven, to the pair of telescopic guides (23).

[(Figure 1)]